

SCIENCE AND TECHNOLOGY
COMMITTEE

EQUAL (EXTEND QUALITY LIFE)

MINUTES OF EVIDENCE

Wednesday 8 March 2000

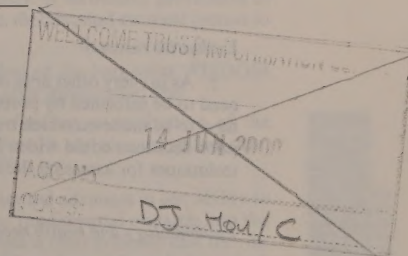
THE MEDICAL RESEARCH COUNCIL

Professor George Radda CBE and Dr Diane McLaren

THE BIOTECHNOLOGY AND BIOLOGICAL SCIENCES RESEARCH COUNCIL

Professor Ray Baker and Dr Alf Game

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WEDNESDAY 8 MARCH 2000

Members present:

Dr Michael Clark, in the Chair

Mr Nigel Beard
Dr Ian Gibson
Dr Lynne JonesMr Nigel Jones
Dr Desmond Turner
Dr Alan W Williams

Memoranda submitted by the Medical Research Council

The Medical Research Council invests over £330 million each year in medical research and training. Most areas of medical research are relevant to the health of elderly people, and, indeed, are more important for elderly people than for any other age group. It is therefore difficult to categorise research according to whether it is especially relevant to illness, disability or death in old age, but for the purposes of discussion, the research agenda can be summarised as follows.

The fundamental processes of ageing

1. We still do not understand adequately why and how the body's cells and systems come to perform less well with age, and why the body's systems deteriorate even when no specific disease is apparent. Research into these processes may help identify ways of preventing some of the problems of ageing.

Neurological and psychological conditions

2. Stroke, dementia, Parkinson's disease, depression, and problems with vision and hearing account for a high proportion of the disability, suffering, and dependence on carers in elderly people. Basic and clinical studies into the causes, prevention, and treatment of these conditions are likely to be of the greatest importance in improving the quality of life of elderly people in the longer term.

Cardiovascular disease, cancer, infections, and other major illnesses

3. Circulatory disease, cancer, and infections are the main cause of death in older people, and the risk of disease increases rapidly with age. Circulatory disease, osteoarthritis, and osteoporosis rank with neurological problems as the most important causes of illness and disability.

Rehabilitation and support

4. This encompasses applied research into psychological techniques for improving memory, movement, or other areas of mental performance; ways of encouraging healing and recovery; prosthetic devices and surgery; and aids to everyday living.

Evaluative research

5. As in every other area of medicine, decisions on treatments, rehabilitation, and the organisation of care, need to be informed by proper evaluations. Indeed the need is particularly marked in this area, as decisions have to be made on which treatments should be offered to older people: without proper evidence of benefits, poor decisions could widen inequalities between older and younger people. There is also scope to improve techniques for assessing the quality of life benefits.

Epidemiology and health needs

6. As the population of elderly people grows, there is an increased need—but also better opportunities—to improve our knowledge of the pattern of health and illness in elderly people; to clarify how earlier lifestyles and diet, and current lifestyles, affect health in old age; and to explore how changing physical and social-economic conditions affect quality of life and health.

Epidemiological studies of risk factors for late onset of disease inform the future prevention strategies; screening for breast and bowel cancer are therefore also relevant.

8 March 2000]

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Of course, these areas overlap. A single research team might, for example, be simultaneously working to clarify the nature of hearing loss in older people, to assess its prevalence and causes, and to assemble the evidence needed to inform health service policies.

MRC'S RESEARCH POLICIES AND THEIR IMPACT

The MRC has, over many years, actively promoted UK research into areas such as circulatory disease, cancer, dementias, vision and hearing, arthritis, repair and rehabilitation, and epidemiology. MRC has also, from time to time, taken special initiatives in specific areas relevant to older people, such as incontinence.

In 1993–94, MRC conducted a review “The Health of the UK’s Elderly People”, looking at research needs, strengths and weaknesses in the area. A copy is attached.¹ The review was prompted in part of the emphasis on elderly people in the Government’s White Paper on the Health of the Nation, and the European Commission’s designation of 1993 as the Year of Elderly People and Solidarity between Generations.

The review recommended several ways in which applied, service-oriented research could be strengthened. In particular, the review found that the coverage of elderly people in epidemiological research was weaker than for other age groups, and that there was also a need to ensure elderly people were included in clinical trials, and that there was more support for clinical trials of measures specifically designed for the elderly. Action was taken on these recommendations.

The need for more research into ageing was also, separately, highlighted in the 1995 report by the Foresight Health and Life Sciences panel.

Overall, MRC’s portfolio of research relevant to elderly people has grown during the 1990’s. Some of this growth is the result of specific initiatives, such as MRC’s support for expansion of work on dementias, research on the long-term effects of Hormone Replacement Therapy, the LINK programme, and AgeNET. However, we also notice that the proposals for clinical and evaluative research we receive in response are now more likely to include some direct assessment of the effects of age on the condition or treatment that is being studied—reflecting an increased awareness in the research community of the research needs and opportunities in this area.

MRC'S RESEARCH PORTFOLIO

The MRC’s portfolio of research relevant to the health and quality of life of elderly people is large and diverse. Examples include:

- mental function and age: the Cognitive Function and Ageing Study (CFAS), co-funded with the Department of Health, is looking at the prevalence of dementias and general cognitive decline in the population, at how these conditions progress over time, and at the degree of disability they cause;
- Alzheimer’s disease—research into the genes, proteins and cellular processes involved in the development of Alzheimer’s disease;
- stroke—research into the scope for reducing the scale of brain damage caused by stroke, and accelerating recovery;
- incontinence—research studies on the epidemiology of incontinence and effectiveness of current care; and on the cellular basis of bladder instability in the elderly;
- osteoporosis—studies on the effectiveness of Vitamin D and calcium in secondary prevention of osteoporosis-related fractures in elderly people; and on the genetic, dietary, and external factors in early life predisposing to later osteoporosis;
- Hormone Replacement Therapy—MRC is one of the main funders of the long-term WISDOM study, looking at health benefits and risks of HRT in the decades after menopause; and
- managing care for elderly people in the community—MRC is funding an evaluation of the effectiveness of different methods of assessing the health of people over 75, and managing their care, to minimise deaths and hospitalisation, and maximise quality of life.

Much of the research MRC’s supports needs a long-term approach. Substantial advances in our ability to treat dementias and stroke are likely to come from sustained programmes of fundamental research into the disease processes. Long-term epidemiological research is also essential, as there is clear evidence that the risk of circulatory disease, diabetes, osteoporosis, infection, and behavioural problems in middle and old age can be influenced by the environment in the mother’s womb, and during a child’s early development. MRC also supports a small, but increasing body of research into the factors affecting the health of ageing populations in developing countries.

¹ Not printed.



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*8 March 2000]**[Continued]*

In the last financial year (1998 to 1999), the MRC spent roughly £12 million on research programmes wholly or partly relevant to ageing. Slightly more than half of this research was funded through grants to universities and hospitals, and the remainder through MRC's own research units.

This figure excludes MRC's research on cancer (nearly £30 million pa), and most of our research on cardiovascular disease (£12 million pa). Although both conditions become much more common in elderly people, and are major causes of death or disability, many discussions on ageing research treat them as separate issues, and we normally show the figures separately.

Spend in all three areas is likely to continue increasing, as MRC has recently:

- awarded funds to Newcastle University to develop a new Centre in Clinical Brain Ageing;
- formed a new Clinical Trials Unit, with a remit to expand evaluative research into areas such as arthritis and mental health, which have a major impact on quality of life and long-term disability, but where UK research is less strong than in other areas;
- launched a major Cancer Collaboration in Cambridge, jointly funded with the Cancer Research Campaign.

We are currently exploring options for developing a major new centre for cardiovascular research.

The figures also exclude MRC's LINK programme on Integrated Approaches to Healthy Ageing. We have funded nine projects through this scheme, mostly building on collaboration between academic researchers and major pharmaceutical companies. Six of the nine projects are studies of Alzheimer's and other neurodegenerative conditions. The other work includes studies on incontinence, cancer, and infections. The total MRC funding so far committed to the projects is about £2 million.

MRC is also a sponsor of AgeNET, along with BUPA, Research into Ageing, SmithKline Beecham and Westminster Health Care. AgeNET's mission is to create a research network to stimulate multidisciplinary and multisector research partnerships, to benefit the health and quality of life of older people. AgeNET works mainly through workshops, newsletters and provision of information on research resources. AgeNET also provided advice on research training needs which has been taken into account by MRC's funding panels, and has had an impact on post-graduate training decisions.

To what extent has MRC been involved in the EQUAL initiative?

MRC worked closely with OST and other Research Councils from the outset of the initiative. We saw EQUAL primarily as an opportunity to ensure co-ordination between Research Council funders, and to ensure any gaps in research portfolios were identified. We saw it as adding value to what was already in place, and did not expect EQUAL to develop a comprehensive framework for all research relevant to elderly people—given the breadth of the medical and scientific issues, and the volume of work already underway, this would have been time consuming and of questionable value.

To what extent has EQUAL brought about new areas of MRC funded research?

It would be misleading to try to separate the effects on MRC decisions of EQUAL from the effects of Foresight, and other factors. In many cases, EQUAL served to reinforce and support ideas or plans that had already begun to take shape.

Taking Foresight and EQUAL together, however, we consider they had direct influence on:

- the formation and development of AgeNET;
- the formation and funding of the Oxford centre working on Cognitive Decline in Ageing;
- MRC's expansion of support for research on early origins for adult disease;
- the development of the Newcastle Centre for Clinical Brain Ageing to include studies of dementia with Lewy bodies, vascular factors in dementia and genetic determinants of phenotype in late onset dementia.

MRC also supported the inclusion of themes on the needs of ageing populations in EU Framework Programme 5, and in discussions with the International Agency for Research on Cancer, which MRC supports.

How does EQUAL relate to the MRC LINK programme on Integrated Approaches to Healthy Ageing?

The LINK programme, although important, represents only a small subset of MRC's work relevant to EQUAL. The LINK programme aims to promote high-quality, precompetitive research collaborations between academia and industry, and this places natural limits on the research topics covered. To increase diversity, MRC has taken steps to encourage research proposals from the other sectors, but current funding is mainly in areas relevant to pharmaceutical research.

8 March 2000]

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We would not normally expect sociological research, public health studies, or evaluative research to be funded through this mechanism.

Has the initiative identified and supported the most appropriate research areas for confronting the challenges of an ageing population?

Across the Research Councils, other public funders (such as the Health Departments), and the charity sector, the UK has a broad, and reasonably balanced programme of research relevant to the key issues. EQUAL has helped with this. But, as mentioned above, EQUAL was about raising the visibility of the area, ensuring co-ordination, and fostering new collaborations: it was not EQUAL's role to develop and support a new research strategy.

Is research in this area receiving sufficient funding? What are the key areas of research in this initiative? What does MRC plan for EQUAL for the future?

There are important opportunities to expand research relevant to the health of elderly people, though we doubt that these opportunities are best pursued as a research strategy whose exclusive objective is the health of elderly people:

- the completion of the human genome sequence and advances in molecular biology are dramatically expanding the scope for high-quality research translating this knowledge into clinical benefits. The priority research areas for MRC have to be the major causes of death, illness and disability, such as cancer, heart disease, stroke, diabetes, inflammation, mental illness, and neurological diseases. All are more relevant to the health and quality of life of elderly people than any other section of society.
- improved interdisciplinary working in public health, sociology, epidemiology, primary health care, and clinical medicine, to improve our knowledge of the root causes of illness and health inequalities, and the scope for prevention. MRC is currently strengthening this area through its "Health of the Public" initiative, and its initiative in primary care research, and expects that many projects will provide important information about ways of improving the health of the UK's elderly people.
- closer collaboration between Research Councils in areas such as tissue engineering and repair, brain research, and sociological research.

We consider that this broad strategy needs to be complemented by mechanisms for monitoring and improving the standing of multi-disciplinary, and in particular, cross-funder research focused on the needs of ageing populations. AgeNET and EQUAL have, in our assessment, clearly strengthened co-ordination between researchers and between funders, and after the current funding for AgeNET ends in March 2000, the Research Councils, including MRC, ESRC, EPSRC and BBSRC, will form a new co-ordinating group. This will form a new co-ordinating group to agree the way forward for cross-Council ageing research. The Councils also plan to establish a funders' forum in order to maintain close links with other key players, such as Research Into Ageing and the Department of Health, and will be discussing collaborative opportunities with the Department once their review of ageing is complete.

HIGHLIGHTS FROM THE INITIATIVE SO FAR

It is too early to point to significant outcomes from the research and research collaborations prompted by EQUAL. But we can say with confidence that UK medical research relevant to the problems of an ageing population is delivering important new knowledge likely to improve medical practice.

Findings from earlier studies funded by MRC, published in 1998–99, included:

- Minimising ill-effects from late onset diabetes—a long-term MRC/British Diabetic Association study showed that very precise blood glucose control significantly reduced patients' risks of developing disabling (and life threatening) side effects of diabetes, such as strokes, vision impairment and kidney disease.
- Coronary heart disease—the MRC's Epidemiology and Medical Care Unit assessed the psychological impact of screening to detect people at risk of developing coronary heart disease, to establish the best approaches to disease prevention.
- Arthritic back pain—MRC-funded research showed a strong genetic influence on the risk of developing arthritic back pain, providing an important pointer for research towards prevention or treatment.

8 March 2000]

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MANAGEMENT AND DELIVERY OF THE INITIATIVE

This is described in OST's memorandum.

CO-ORDINATION WITH EFFORTS IN OTHER GOVERNMENT DEPARTMENTS

MRC has very close links with the Health Departments, through a formal Concordat and frequent joint working and exchanges of information. The Concordat provides a route by which the Departments' views of research priorities relevant to ageing can be discussed, and taken into account in MRC funding decisions. For example, the Departments have highlighted incontinence and mental health among their key priorities. Major studies jointly funded by the HDs and MRC include the WISDOM study of the longer term effects on women's health of HRT and the cognitive function and ageing.

MRC has also contributed to the review of Age and Age-Associated Disability conducted during 1999 as part of the NHS Strategic Review of the R&D Levy. While the report is not yet published, the findings confirm the close alignment between MRC's priorities and those of the NHS. MRC will discuss with the Health Departments the action they propose to take in the light of the review, and how to ensure co-ordinated action.

The MRC Health Services Research Collaboration involves eight academic centres focusing on common disabling disorders of elderly people: disability in the elderly; joint disease and the requirement for joint replacements; and adult onset diabetes.

Working with DH, OST and the other research councils, the MRC took a lead in promoting and developing the priority programme ("key action") on The Ageing Population and Disability in the European Union 5th Framework Programme.

12 January 2000

Supplementary memorandum submitted by the Medical Research Council

RESEARCH ON HEALTHY AGEING AND AGE-RELATED DISEASE

1. OVERVIEW OF SPEND IN 1998-99

	<i>Basic/Descriptive Research</i>	<i>Treatment, Prevention and Health Services Research</i>
Ageing (research other than LINK, cancers and most heart disease research)	£8.5 million per annum	£8 million per annum
LINK		£2 million per annum
Cancer		£30 million per annum
Cardiovascular disease		£12 million per annum
Total (excluding overlaps)		£58 million per annum

2. NEW AWARDS ON AGEING SINCE 1998-99

(Total value over three to five years, excluding cancer and most heart disease)

	<i>Basic/Descriptive</i>	<i>Treatment/Prevention</i>
	£6 million	£6.5 million
Total	£12.5 million	

3. RESEARCH OBJECTIVES AND AREAS IN 1998-99

(£ millions spent during 1998-99)

	<i>Cognition</i>	<i>Mobility and incontinence</i>	<i>General health</i>	<i>Cardiovascular problems of old age</i>	<i>Total</i>
Treatment Prevention and Health Services	2.1	2.9	2.0	0.9	8
Basic/Descriptive Research	4.3	0.6	2.2	1.3	8.5

8 March 2000]

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DEFINITIONS

Cognition: research in Alzheimer's disease, general age-related cognitive problems and related rehabilitation, and age-related vision and hearing problems.

Mobility and incontinence: research into musculoskeletal problems, osteoporosis, osteoarthritis, Parkinson's disease, incontinence, and other problems of movement or co-ordination.

General health: research that cuts across several health areas, such as work on the value of active screening of elderly people; effectiveness of health services; and social, dietary and lifestyle factors linked to general good health, or more than one illness, in old age.

Cardiovascular problems of old age: research into congestive heart failure, venous leg ulcers, and other circulatory problems mainly associated with old age.

March 2000

Memoranda submitted by the Biotechnology and Biological Sciences Research Council

INTRODUCTION

1. The Biotechnology and Biological Sciences Research Council is the UK's lead funding agency for academic research in the non-medical life sciences. It was established by Royal Charter in 1994 and is funded principally through the science budget of the Office of Science and Technology.

2. The BBSRC's remit for the life sciences gives it a limited but significant role in addressing EQUAL objectives. In particular, it has a major role in investigating the fundamental biology of ageing, and much of its work supporting biological research underpinning healthcare is of relevance to older people.

3. BBSRC research does not directly contribute to most of the wider management, social and economic issues for individuals and for society which arise from the increase in average lifespan. To this extent, its involvement in EQUAL (or, for example, in the areas being addressed by the Ageing Thematic panel of Foresight) is limited.

EQUAL RESEARCH IN BBSRC

4. The principal BBSRC contribution to the EQUAL programme has been the Science of Ageing (SAGE) Initiative. This initiative funded 32 research projects on aspects of the biological basis of normal ageing, at a total cost of £5.4 million, commencing in late 1998.

5. Healthy ('normal') ageing—as opposed to age-related disease—is relatively poorly understood. Until recently it was not an intensive area of research activity, the focus of most ageing research having been on the understanding of, and the development of, treatments for diseases of old age. However, some individuals age more successfully than others—in the sense that they enjoy a long, active and healthy life followed by a short decline—and it is clear that our understanding of how this happens is not improved solely by increasing our knowledge of the various diseases of old age. The SAGE Initiative is aimed at fundamental understanding about how and why the human body ages.

6. SAGE has funded research in four general areas underpinning our understanding of normal ageing: cellular senescence; the biochemistry of stress damage and repair in cells; the population biology of ageing; and ageing in biological systems such as the nervous system. The research portfolio is very diverse, and involves many scientists whose skills have previously not been applied to ageing phenomena. The initiative therefore includes substantial support activities, including a programme of workshops to assist the scientists involved, and networking between them and others in the research community in the UK and internationally working on ageing. The charity Research into Ageing (RIA) has been involved in advising BBSRC on the development of the initiative from its inception. Scientists supported by RIA participate in many of the SAGE activities.

7. The launch of the SAGE initiative attracted substantial media attention, and was followed up by a very successful Ageing Day at the British Association Festival in Cardiff in 1998, which BBSRC organised in collaboration with RIA. The programme included talks of general interest, an interactive exhibition aimed at school children, a public participation experiment in Cardiff shopping centre on the relationship between physical measurements of balance and cognitive decline, and technical presentations for journalists. BBSRC is now also developing a schools information pack on ageing research.

8. In addition to SAGE, there are a number of other areas of BBSRC sponsored research which, *inter alia*, have relevance to potential improvement of the quality of life of the ageing population, notably:

- research on diet and health which addresses how aspects of nutrition throughout life affect health in later life;

*8 March 2000]**[Continued*

- extensive research in molecular, cellular and structural biology underpinning pharmaceuticals and other therapeutics, many of which address health problems in the older population;
- medical engineering and materials science which contribute to the development of prosthetics, and other appropriate technologies such as sensors which can contribute to improving independence in the infirm;
- nuclear transfer (the “Dolly technology”) developed in the BBSRC-sponsored Roslin Institute not only has considerable potential through its impact on tissue replacement and regeneration technologies, but has shed light on the biology of ageing.

MANAGEMENT AND IMPLEMENTATION OF EQUAL

9. Although the SAGE initiative was conceived independently of the EQUAL programme, the renewed promotion of EQUAL by the incoming Government in 1997 provided an incentive for the Council to prioritise the area and contributed to the success of the initiative proposal when it was put forward in competition with other possible areas for initiative support within BBSRC.

10. The EQUAL programme has not received any direct resource and has been operated by the OST on a lightly coordinated basis. Given that the BBSRC interest in EQUAL is very much at the fundamental science end, we have found this level of coordination adequate. The coordination of EQUAL by the OST has largely been visible to BBSRC through contributions being made by the OST to the AgeNet network which has been operated by the MRC and other partners as a Foresight Challenge activity. BBSRC is not a partner in AgeNet, but is an observer at its Steering Committee and has participated in a number of specific activities which AgeNet has launched and which have been relevant to the BBSRC. This has included, for example, workshops on bone fragility and on cellular senescence.

11. BBSRC activity has needed little coordination with government departments other than OST, although a special meeting of the NHS National Forum was held on ageing research in 1998 at BBSRC's initiative. This was useful in highlighting differing perspectives.

THE FUTURE FUNDING OF AGEING RESEARCH

12. Research into the biology of ageing will, in the longer term, surely increase our capability to manage ageing throughout life in order to promote a more active and healthy later life. It is therefore a priority for investment. In this respect, the UK is lagging behind the US, which established the National Institute of Ageing (NIA) 20 years ago.

13. In the biomedical sciences, research investment in ageing still concentrates heavily on high profile causes of major disease and mortality—cancer, Alzheimer's, heart disease, etc—rather than conditions such as constipation, incontinence, macular degeneration, osteoporosis or hearing and balance problems which impair life quality significantly for great numbers of older people. The increase in ageing research reflected by initiatives such as SAGE, and the growing “market pull” of the older population on the pharmaceutical industry and healthcare services should begin to redress this somewhat. Nevertheless, it is unlikely that the research councils and the relatively small ageing research charities will be able to match the levels of financial support currently available to the very best scientists in cancer or heart disease research in order to encourage them to deploy their talents on studies of healthy ageing, or less high profile health problems.

14. Outside the pharmaceutical sector it appears, from the limited BBSRC perspective, that much of the need is for relatively low tech design and development rather than advanced research. For example, the materials and design technologies probably exist to provide better aids for those of infirm sight or grip, to improve continence aids or to make better hip protectors to prevent injury from falls. Bringing this about is an industrial development and health service management issue, rather than a research one.

FUTURE DEVELOPMENTS BY BBSRC

15. The relevant BBSRC Committees will be developing proposals over the next few months for a second Science of Ageing Initiative for possible launch in 2001. The details of this have yet to be discussed, but we believe that there is much to be gained from exploring the application of the considerable investment being made in genomics technologies to improve understanding of the genetic basis of ageing at the individual and population levels.

16. BBSRC will also participate in a joint Research Councils coordination activity being established as a successor to the AgeNet, which will be coordinated by ESRC.

January 2000

8 March 2000]

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Examination of Witnesses

PROFESSOR GEORGE RADDA, CBE, Chief Executive, and DR DIANE McLAREN, Strategy and Initiatives Coordinator, Medical Research Council, PROFESSOR RAY BAKER, Chief Executive, and DR ALF GAME, Head of Genetics and Biochemistry, Biotechnology and Biological Sciences Research Council, were examined.

Chairman

46. Professor Baker, Professor Radda, Dr McLaren and Dr Game, thank you very much indeed for coming along this afternoon to the Science and Technology Select Committee and helping us with an inquiry we have decided to undertake into the subject of EQUAL or ageing. Can I welcome back again Professor Baker and Professor Radda? Both of you are friends of this Committee in the sense that we have met you both on two or three occasions in the past in different circumstances to do with the Dearing Report way back in 1997 and the last time we met Professor Baker I think was when we paid a visit to Research Council headquarters in Swindon in July of last year. Thank you once again for giving up your time to be with us. We also appreciate the fact that you have brought with you colleagues who will also assist in our questioning this afternoon. What we shall try to do, Professor Baker and Professor Radda, is direct our questions as far as possible at one of you two and if you think it is more appropriate that the answer should come from one of your colleagues, please indicate and ask your colleague to answer. If Dr McLaren or Dr Game wish to make a comment, even though it has not been indicated by the professors, if they just catch the eye of the Chair, I shall invite them to make a comment because we want as free and as frank and as helpful a discussion as we can possibly get. I wonder if perhaps I can invite Professor Baker and then Professor Radda just to introduce themselves in the context of the questioning we are doing this afternoon, bearing in mind we know you both well? Set your own personal background and present position in the context of the questioning that we shall be having on EQUAL.

(*Professor Baker*) Thank you. As you know, I am Chief Executive of the BBSRC. Our Council is responsible for fundamental aspects of biotechnology and the biological sciences. We fund both universities and our own institutes where we have some 3,500 employees in eight institutes. In relation to the topic that we are dealing with today, EQUAL, our connection with that initiative is predominantly that we are involved in a study of the fundamental processes of ageing, the way cells age and the details of that. What we are not directly involved in are diseases which are associated with the ageing process, although of course much of our biology does give information which will inform some aspects of the ageing process.

(*Professor Radda*) I am Chief Executive of the MRC. My background is in biochemistry and clinical work. Having looked up Medline and publications on ageing, I reminded myself that in 1997 I published my last paper on ageing and the study of aged groups, so I have a personal interest in some aspects of ageing. The Medical Research Council of course has a very clear mission to improve human health. It would be very surprising if we were not ready to respond to the EQUAL initiative or

indeed we were not already doing many things that relate to that. After all, the quality of life is part of the process that relates to the health of the nation. We too support research in two sorts of ways that are very important. One is grants to universities and the other is our own units and institutes, over 90 per cent of which are embedded in university departments. Those allow us to do planning for long term research which is critical for us and also ensure that we have a critical mass of people from different disciplines tackling major issues such as ageing and related processes.

47. Dr Radda, I would like to start by asking you this: we know that the EQUAL initiative was started in 1995, which is coming up for five years ago. We would expect, therefore, by now there would be some research going on connected to the EQUAL programme. Could I ask to what extent EQUAL changed the Council's funding as far as strategies and priorities were concerned?

(*Professor Radda*) First, I think it is important to define what we understood by EQUAL. That was that it was a recognition by the Government and departments of the importance of research into improving quality of life. It was not an initiative as such in that there were not earmarked funds or anything of the sort, but it was something that brought to everybody's attention the importance of that. We have incorporated into our strategic plan those aspects of EQUAL that relate to the Medical Research Council. We plan strategy in a very extensive way. We have four boards who each year look at their whole portfolio, look at where there are gaps, where there are new needs and where there are initiatives from other quarters, Foresight and so on. Then the information from there goes to the strategy development group who send it to the Council and there is a second iteration going back to the boards. It includes discussions with our 40 directors. We have the input of over 300 scientists each year into the strategy that we announce and put on our website each year. That is how we arrive at strategic importance and priorities of our research. We very rarely ring-fence money around strategic issues. That is, we do not do a great deal of what I call directed research, but a lot of our research is driven by needs and strategy.

48. I think I understand what you are saying. You have said quite clearly that EQUAL is not an initiative in the sense that there is no funding allocated to it as such, but it might be a campaign—these are my words now—to create awareness of the needs for looking at this particular area. Since the initiative and the campaign started five years ago, are you able to give us some specific examples of useful research which have come about as a result of EQUAL?

(*Professor Radda*) Indeed. I can give you a great deal. If we look through our portfolio since then, we have spent about £16.5 million per annum in the

8 March 2000]

PROFESSOR GEORGE RADDA, CBE, DR DIANE MCLAREN,
PROFESSOR RAY BAKER AND DR ALF GAME

[Continued]

[Chairman Cont]

1998-99 session on research that would come under the EQUAL definition. On the last round, since that number was calculated, we have added another £12.5 million of funding into that area. We have funded a great deal of research. One of our very major studies, for example, is a study on cognitive function of ageing. That included five centres, Nottingham, Cambridge, Oxford, Liverpool and Gwynedd. We spent, for example, £2.9 million on that programme. Some of the papers have been published just this year. One of them appeared in "The British Medical Journal" and it showed, if you like, the distribution of cognitive impairment in aged people among women and men. It turns out that 12 per cent of women and 19 per cent of men over the age of 65 suffer from such a condition. Over 80 per cent of these people require daily care. That is an important finding. Following that study is the question of what interventions can we derive. That is one example. Another example I can give you is not a subject that would be seen to be trendy, but is incredibly important of course, that is incontinence. We have had a major grant at Leicester, £4.2 million, on actually defining the epidemiology, the distribution, the background and the basis of that and then various interventional trials as part of that. Those are two examples.

49. You did start off by saying there are a lot. We do not have time for a lot. If you have time away from this Committee, do you think you could drop us a short note indicating another half dozen or so examples?

(Professor Radda) I can indeed, yes.

Dr Jones

50. Over what period of time was that spending?

(Professor Radda) The spend I gave you was for 1998-99, one year, for the £16.5 million.

51. Four million on incontinence in one year?

(Professor Radda) Incontinence spend was over a period of five years.

Chairman

52. As a supplement to Dr Jones's question, could you indicate how much of that money would still have been spent even if there had not been an EQUAL campaign?

(Professor Radda) That is a very difficult question to answer because in a sense it is a hypothetical question. Would we have spent it? I do not know. Certainly the priorities that we have been giving to various grant applications have been influenced by EQUAL.

53. You describe it as hypothetical; I would describe it as cynical; it is maybe both. Some of it would have been spent without EQUAL, would it not?

(Professor Radda) I am pretty sure it would have been. I think we would have been not doing our duty if we had not recognised the need for looking after old people.

54. Professor Baker, why did the SAGE campaign, the Science of Ageing campaign, not start until 1998, which was three years after EQUAL had been launched?

(Professor Baker) As I think you know, I joined the Council towards the end of 1996. At that time, EQUAL was in the public domain. In the early part of 1997, we consulted with our community. As we do with many special initiatives, we set up a group to examine the possibilities and the focus of a programme which might have some relevance to EQUAL. If my memory is correct, it was chaired by Linda Partridge. That took a few months to do and the committee then reported back and said, yes, this was an interesting area but they did not think the community was quite ready for us to mount a significant programme in this difficult area of research. Ageing research in the United Kingdom in many ways lagged behind that in the USA for a number of reasons which we may want to go into. One was that it had received higher prominence in the US with the National Institute for Ageing. It was not really on the fundamental aspects of ageing; it was very much related to disease but that gave ageing an awareness which possibly had not been reached in the United Kingdom. I take a certain amount of pride in what happened after that because when the committees reported back and they said that we were not quite ready; they wanted more consultations, we decided in the Swindon office that we would push on with an initiative, in spite of some rather discouraging responses. We worked very hard through 1997, launched the initiative and put out a call for programmes in basically four main areas. We may come to that later. We got a response of something like 140 applications totalling a significant sum which Dr Game will confirm.

(Dr Game) It was colossal, something of the order of 30-odd million.

(Professor Baker) Yes, the initiative eventually began in 1998. Initiatives do take that time to launch, to announce, to referee, to get to the committee and then the programme starts, so in some way I thought we moved more quickly than we otherwise might have done. That programme did come from our awareness that EQUAL was important, without that I think the initiative would not have begun quite so quickly.

Mr Beard

55. This country, along with many countries, is facing significant challenges from an ageing population. What are the top areas you would suggest should be researched into from the different perspectives of your two research councils, the top priorities for addressing those sorts of problems?

(Professor Baker) Our top area would be the question of cell senescence, how cells age, what are the aspects of that ageing process? Of course it varies with all of us enormously and we would wish to understand why someone of 40 years old may seem old and yet someone of 70 might seem in the prime of life. That difference needs to be defined and once it is defined I think one can then begin to help those who would need such help. Cell senescence, telomerase and the operation of those enzymes which shorten

8 March 2000]

PROFESSOR GEORGE RADDA, CBE, DR DIANE McLAREN,
PROFESSOR RAY BAKER AND DR ALF GAME

[Continued]

[Mr Beard Cont]

DNA. As we get older, the DNA begins to get shorter. They are some of the most fundamentally important issues for us at this stage.

56. Are there any others that are not quite of that rank but second or third to them?

(Professor Baker) Leading on from that would be the question of incontinence and many other associated issues. We would wish to understand how the nervous system control is lost or decreased in the ageing process which causes the problems related to hygiene. We touch on the degradation of bone, leading through into osteoporosis, so right across the whole of the diseases which come with ageing we would be interested in understanding the very beginnings of that degradation, of change, in the human condition which leads eventually to those diseases.

57. Are you doing work, or is work being done under your auspices, in all those three areas?

(Professor Baker) We would do some work in our responsive mode programmes, yes.

(Professor Radda) There are two aspects to your question. One is, as the Medical Research Council, we clearly have to look at diseases which are very common diseases, whether in the old or in the young. Our priority certainly includes cancer and heart disease and mental health which are clearly more common in the elderly and in the aged population than in the younger one. Then there is the question of processes that are always associated with ageing. These include osteoporosis, on which we are doing a great deal of work, and how that relates to things like hip fracture and how you can prevent that. It includes degeneration of mental abilities, cognitive decline, which is very common. I have already referred to one particular programme but there are others.

58. This is other than something like Alzheimer's?

(Professor Radda) Sure. Alzheimer's, Parkinson's, all the diseases that are associated with ageing. We have a great deal of support in Alzheimer's, both at the basic end of understanding the mechanisms and at the end of trying to see what interventions you can have. We have two interesting imaging programmes, trying to see whether you could detect changes in the brain which will lead to Alzheimer's prior to any clinical manifestations. Dr Rosser in London and an Oxford group are doing that work. Those are important areas that we feel are associated with ageing. I think it is important to emphasise that one does have to do long term, basic research as part of this programme. I can give you one example of long term, basic research which is interesting and I only picked it up the other day. The King Faisal Prize, which is a major, international prize, in ageing this year was given to a Professor Cynthia Kenyon in San Francisco and she worked on a little worm called *C.elegans*, showing that in that there is a particular gene associated with a hormonal response like one would have in humans to insulin. That lady was trained at the Laboratory of Molecular Biology in 1985 at the MRC lab in Cambridge on *C.elegans* genetics. Here is how a particular, very basic piece of molecular biology, which incidentally had a huge effect on the human genome sequencing

programme—it was the first multicellular organism—had an effect internationally on research on something quite remote like ageing.

59. You have outlined the areas of cancer and heart disease. You are also active in osteoporosis and mental health?

(Professor Radda) Yes indeed.

60. Given that, why did the MRC not introduce a particular EQUAL programme when EQUAL was brought in?

(Professor Radda) We felt that EQUAL was a way of raising awareness to this particular issue. We were able to raise that awareness within our existing granting system and encourage people, through various calls for proposals. For example, we put out a call for proposals in public health. A large number of those proposals were related to issues in ageing and quality of life. I think we had the mechanisms. We had the people and we were able to be proactive in different ways. For example, since the EQUAL programme started, we set up a major centre in Newcastle on ageing. That was very much influenced by the need to respond to EQUAL.

61. This question is addressed to both of you. Are you satisfied or concerned at the balance of your resources between, say, issues relating to ageing and other issues in your programme and within those issues that relate to ageing that you have just partly outlined? Are you satisfied the balance is right between those? How do you arrive at deciding what is the proper balance?

(Professor Baker) That is a question of judgment. Earlier on, I said my view and my colleagues' view was that ageing research in the United Kingdom had not been fully established and was moving very slowly. You will appreciate that you can waste a lot of money on research as well as use it wisely. Our view then—I think it is still our view now—is that introducing a relatively large sum of money for research at that time, five to six million, on a specific programme of ageing and some of those areas I have defined, was a correct way to go to give that field the stimulus that it really needed. We will follow that programme once we assess the success of the community that were successful in that particular call for proposals. Therefore, we would build up that programme as we go along. At the same time, as well as a special initiative, the majority of our funding goes out in what we call responsive mode. It is not a free for all. There is a landscape and this would be one of our priorities within that. There is a continuous process for our community to apply for money three times a year for all programmes. We see the ageing initiative as a stimulus. We will follow with probably a second initiative either next year or the year after, and we will encourage people to compete for the whole of our funding that we allocate each year.

(Professor Radda) To answer the balance issue, I am satisfied. The research into ageing and support of it is certainly very much on the increase. If we look at it five, six or seven years ago, it would have been far less. We have specific programmes like the LINK programme on ageing and we are also involved in AgeNet, but perhaps one could highlight that nearly

8 March 2000]

PROFESSOR GEORGE RADDA, CBE, DR DIANE McLAREN,
PROFESSOR RAY BAKER AND DR ALF GAME

[Continued

[Mr Beard Cont]

20 per cent of our portfolio is on neuroscience and mental health. A very large part of that is on the ageing population.

62. Dr Game mentioned that the bids were £30 million as well as the five million that Professor Baker has mentioned. Is it your impression on the two research councils that there is a large amount of effort that would come in if the funds were there?

(Dr Game) We put out a call for proposals focusing on these four specific areas listed in the document we gave you. Of the 140 bids that came in, a surprising number were very poor indeed. I think that reflects the fact that this is very much a trendy area. It is a bandwagon area where let us say people who are less successful than some of their colleagues thought: "Oh well, I might as well go for this. It is something new." I think that does highlight a real problem which is that unless there is a good scientific motivation in biomedical sciences you will not get the very best scientists applying regardless if you advertise money, because there are many opportunities for them to apply elsewhere. Of those 140 bids, which was exceptionally high for an initiative—we would be normally looking at about 60 on the ones that we put out—probably about a third of them were not really about ageing at all. They were things that people had tried to dress up in order to try and fit the terms of the call, which is quite familiar to people I am sure. A fairly large proportion of what was left did not get through the initial sift of scientific quality so we have to build the community. The impression that those numbers give that there is a large number of people out there capable of delivering high quality work in this field is misleading.

Dr Gibson

63. How many alpha rated were there?

(Professor Baker) We would have funded all of them. We would have extended the budget had we felt there were top class proposals.

64. All the alpha rated ones got funded?

(Dr Game) 32 out of 140.

Mr Beard

65. Would you like to answer the same question, Professor Radda?

(Professor Radda) I can give you two examples where we have put out a call for proposals that would certainly be relevant to what we are discussing. One was in general practice research. We had 95 proposals. Probably about ten are fundable. That is not a bad ratio at the moment for that kind of research. We are training people to do more and more in that area. The other is in the health of the public. We have been very much more successful. We had 130 outline applications. We invited 36 of them for full proposals and we are certainly going to fund quite a proportion of them. The quality of the people interested in these projects is now on the increase but it was not there five years ago or six years ago in any quantity.

Dr Turner

66. Professor Radda, starting from the premise that the Office of Science and Technology identified the proven quality of life for older people as a high priority area for Research Council allocations, and bearing in mind the comment you made earlier about the fairly major proposal over five years which you have funded in incontinence research, what is your response to what Dr Metz has told us which is that some areas like incontinence, which are intrinsically unfashionable and unsexy, are unlikely to get funding compared with more attractive areas? Do you agree with that? What else is the MRC doing with incontinence?

(Professor Radda) I think those remarks are based on ignorance of the portfolio of the Medical Research Council. We do support very many unfashionable areas which are very important for the health of the nation. £4.2 million on incontinence in one single programme is not a trivial sum. It is more than in the whole of AgeNet put together five times.

67. When you are deciding the distribution of funding, what is the greater influence? Is it the quality of the proposals or the social value of potential outputs for those proposals?

(Professor Radda) The way it works is as follows. We have priority areas. We have things which we feel are very important to do. First of all, we evaluate for all our proposals whether they are invited or whether they are response mode without any call for proposals for the quality of the science. We then put together all those high quality applications that ought to be funded and we consider them all together. At that stage, we have a group of people, the Awards Advisory Group, that consists of the board chairman, Health Department representatives and industrial representation and say, given that we would like to fund all of those but we can only fund up to a certain level, what are the priorities that we have to superimpose on the ordering of the science that we want to support. That way, we support high quality science in priority areas.

68. Do you think that the Foresight panel on the ageing population will have any influence on the development of your research programmes? Do you think it will encourage you to fund things you might otherwise not have?

(Professor Radda) It has already done so. The Oxford Optima Project of course was a Foresight programme. That is on Alzheimer's disease and the development of Alzheimer's. Like all these things, Foresight again identifies areas that are important to consider. It does not necessarily mean that you will be able to go into that field unless you give up something else against it. It is a question of deciding on your priorities and whether the manpower and the quality of science and the quality of the scientists are there who would want to be involved in that programme.

69. Professor Baker, do you plan any more calls for proposals for the BBSRC SAGE programme?

(Professor Baker) Yes. In my own view, the committee which monitors that, which Dr Game administers, would be very keen indeed to agree now to plan for the next stage. I am slightly more cautious at this moment. What I think we should see is the

8 March 2000]

PROFESSOR GEORGE RADDA, CBE, DR DIANE McLAREN,
PROFESSOR RAY BAKER AND DR ALF GAME

[Continued]

[Dr Turner Cont]

quality and progress that this current initiative has achieved. As soon as we see that there are real signs of quality, I think we will agree to support the next stage, but there ought to be some reflection on progress. We are only two years in on that programme. There are many other competitive areas which are coming in. One of them which we have not mentioned is that of diet and nutrition which is in some ways related to quality of life and particularly the ageing process too. There are many areas there that we can fund as well. There is certainly a timeliness about science and funding at the right time is very much more profitable than even more funding at the wrong time, depending on the extent of the knowledge and the development of that knowledge.

70. The trouble is, you only find that out after the event.

(Professor Baker) You begin to see it. It was clear many years ago, when many of us were younger, that pouring money into cancer in the sixties was not going to yield a return on that large investment that came forward because the knowledge of science was not appropriate. Things have changed today.

71. The SAGE programme at the moment is just £5.4 million over three years as against your overall budget of £200 million. Do you think that the subject is sufficiently funded, given its strategic importance?

(Professor Baker) It was funded sufficiently consistent with the ability of our community, as we explained earlier. Dr Game referred to the numbers of proposals and the fact that we did fund all the alpha rated proposals. We could do this for an initiative which we have classed as important, because we expanded the budget to fill it. That is not always the case. At that time, we were confident that we were funding as much good science as we could leverage at that particular time. Next year it could well be different. If 140 proposals came in at stage two, it may be that a larger percentage of those would be highly competitive and we would then need to fund it and expand that money again. There are grants going out now in responsive mode too. There is a continual stream coming in additionally to the initiative.

72. We have been told, rightly or wrongly, that the previous call for the SAGE programme only allowed a very short time for preparing proposals. In future rounds, will you allow more time for preparation of proposals, in particular to encourage cross-disciplinary proposals or collaboration?

(Professor Baker) You would not expect me to agree with that proposal. There was no doubt in my mind that, although the call for proposal was relatively short, the debate had gone on for the previous nine months with quite extensive consultation. People knew at that time that an initiative was in the offing. People knew at that time that we were making it a high priority. You do not suddenly turn out one evening and write a proposal which is submitted the next morning. Perhaps you do. Some of us have done that in the past but only because of pressure of events. A research area that you are very committed to is one which is very much in one's mind and therefore it ought to have been possible in the 14 weeks or so that we allowed for the application.

(Dr Game) Specifically, there was a preliminary workshop four months before the call for proposals came out, which was attended by 120 people from the community, where we described what we were going to do. Many people had more time than we would normally allow.

73. They had ample time to focus their minds?

(Dr Game) I think so.

Dr Williams

74. Within the SAGE programme, is there some component of looking at ageing in other species?

(Professor Baker) Not in that particular initiative but of course the whole world knows of the cloning of Dolly. There is no question that the information one would get from nuclear transfer is the understanding of cellular ageing. It is an intriguing question as to how old that celebrated sheep is, whether she was six when she was born and so on. There have been some attempts to correlate the length of her telomers and her age. There has been some conclusion drawn on the basis of that. Those programmes in animals will be going on as a matter of course within our Council and that is not of course counted in the money we have given to SAGE. If we counted all the funding that went in, I would imagine that if you drew a wide area of work into these programmes it would be quite large, £20 to £30 million or so.

75. Are there some specialists in the ageing process? Is it a respectable academic lectureship?

(Professor Baker) It is. You will no doubt have read Tom Kirkwood's book "The Time of Our Lives", which he published about 18 months or so ago. Tom Kirkwood is one of the leading authorities in the world in that area. In the United Kingdom we have three or four but we do not yet I think match those in north America.

76. Professor Radda, you mentioned your own paper two or three years ago. Within medical science, is the study of ageing a recognised career?

(Professor Radda) Gerontology is a very recognised career. It is a specialty that is pretty strong in this country. There is some very good clinical work in that area.

77. What are your Councils doing in terms of promoting ageing as an academic study?

(Professor Radda) We are. Normally, if we want to promote an area, we work in four different ways. We either set up new units or new centres or we put out a call for proposals and invite applications, or we give out a highlight notice to say that this is important or occasionally, as I mentioned earlier, we do a directed programme. We have done the first three of these for the ageing process and we are satisfied that the quality is there.

78. Are we, as a country, training enough scientists?

(Professor Radda) We are now training enough scientists. I think it is becoming more and more interesting for people because we now have the tools to study not only the molecular basis of ageing but also the consequences and new interventions, of trying to see how to improve quality and so on.

8 March 2000]

PROFESSOR GEORGE RADDA, CBE, DR DIANE McLAREN,
PROFESSOR RAY BAKER AND DR ALF GAME

[Continued

[Dr Williams Cont]

(Dr Game) We have been trying to promote greater numbers of research studentships in the area with some success. We have had it as a priority for the last couple of years and I guess we have probably doubled the number we are supporting, although the numbers in real terms are quite small—say, 12 or 15. As the Professor explained, there are relatively few centres where you can actually train people at the moment. We are making progress, I think.

(Professor Radda) I met the director of the Institute of Ageing (USA) only a few weeks ago, Dr Hades NIH, and they are very interested to come and collaborate with us in a proposed study, where we are going to study a large number of cohorts of people from 45 onwards in a longitudinal way for the next 15 years. We will have NHS records. We will have DNA samples. They cannot do that in the States because they do not have a National Health Service. We actually have advantages over the Americans because we have good health data for many of these people, particularly the older people.

79. Finally, on the human genome project—is this an area that will benefit a great deal from the results?

(Professor Radda) I think it is going to transform medicine. It is going to transform the way we are looking at biology and biomedical sciences in general. We are already seeing the consequences of that in that people can now recognise very important genes. We can then design experiments to understand the function of some of those. That is going to give us not only basic mechanistic information but new targets for therapies and an opportunity to do prevention much more than treatment.

Mr Jones

80. Can I ask you about the profile of EQUAL? We have had a number of people before us who have told us that EQUAL has a very low profile in the research community. Do you agree with that? If you do, how important is it to raise the profile? Whose responsibility is it? Is it yours or the OST's? What can be done to raise the profile?

(Professor Radda) The need to do research for improving the quality of life has a high profile in the research community who are concerned with health and ageing. That is EQUAL. Whether the word "EQUAL" has the same profile as the consequences of EQUAL I am not sure but does it matter? If you achieve the aims of EQUAL by making sure that people understand what is important about it, that we do not use the acronym is perhaps not so important.

81. Professor Baker, your memo to us refers to the renewed promotion of EQUAL by the incoming government in 1997, providing an incentive for the Council to prioritise the area. What form did the renewed promotion take?

(Professor Baker) It was a reminder that we needed to re-emphasise the need for quality of life as the basic mission of our Council. Quality of life is important and our research should underpin that. Therefore, from time to time, it is useful to remind the community that this is a very important area and that is what happened at that time.

Dr Gibson

82. I want to talk about the national coordination of ageing research. The OST and yourselves have been involved in this EQUAL initiative. The hypothesis was, from a colleague on this Committee who was an ex-Minister of science, that EQUAL had just gone dead and nothing was happening. What is your interaction with the OST, for example? Would you have done ageing research anyway? The BBSRC has done ageing research in the seventies. I remember the work that Alec Comfort did and so on. It would have gone on anyway because the science drove it. The OST did not drive it and EQUAL did not drive it. Is that true?

(Professor Baker) Yes. The OST's role needs to be fairly defined. The OST does not drive research or research councils. As I understand the role, they should coordinate and make sure that research councils talk to each other well. We do that without them telling us. They distribute the science budget in ways which they feel is appropriate following consultation. I do not think the role of the OST is particularly crucial here. I do not think they have done anything that they should not have done or the opposite.

83. You talk about coordination. What substance was there in the coordination? Where did it take place? Was it once a month? Was it once a year? Was it the odd exchange of letters? Was it a phone call?

(Professor Baker) Our coordination would be with the MRC and other research councils.

84. But not with the OST?

(Professor Baker) Not particularly.

85. What is the role of the OST in all of this? They get the money. The Government sets the programme up. The OST have to run it and they disappear off the scene. Is that what happens?

(Professor Baker) I do not think they do that. The spending review 2000 which is going on now, the coordination of all that effort which goes into the Government to gain the science budget and to make the case clearly that science activities require the level of resource that is being bid for is done by the OST. The distribution of that science budget is at the behest of Ministers and is then handled by the OST.

86. Coordination could mean a czar or tsarina, for example, or somebody who actually does it and makes sure it happens. We are finding out what is going on now because this inquiry is taking place. I bet no one else in this country knows that this kind of interaction between yourselves has been going on.

(Professor Baker) If people in the country read our publications of the activities of our Council—

87. The results of the research, certainly, but there is no apparent coordination where everybody can stand up and say: "Look what happened because the Government put money into EQUAL." The Minister of Science approved it. The OST approved it. You guys took it up and you have good research going on. There is no coordinated campaign, no strategy going down the line.

(Professor Radda) I agree with Professor Baker that it is the role of research councils to drive the research and decide on priorities. In this particular case, because it came as a ministerial initiative, if you

8 March 2000]

PROFESSOR GEORGE RADDA, CBE, DR DIANE McLAREN,
PROFESSOR RAY BAKER AND DR ALF GAME

[Continued]

[Dr Gibson Cont]

like, there was an OST research council working group as a coordinating committee that met once a year following the EQUAL initiative. The rest of the interaction was between the research councils themselves. We did set up AgeNet which involved several research councils, the Health Department and private funds. That was designed in part to coordinate research into ageing.

88. You said in your submission to us that you work closely with those organisations. What does that mean? Once a year? Once a week? With the OST committee? This is the first time I have heard of such a committee.

(Professor Radda) There was such a committee and that met once a year.

89. Who set that up?

(Professor Radda) That was set up between the OST and the research councils. The OST effectively set it up.

90. That was your close coordination through that body?

(Professor Radda) If you like, the OST kept an eye on how well things were coordinated among the research councils.

91. There were meetings?

(Professor Radda) An annual meeting.

(Dr Game) I am on this committee. In practice, there is an EQUAL coordinator at the OST. She is someone we speak to. Each of the research councils has someone who is responsible for EQUAL. I am the person in BBSRC. She is someone I speak to, not necessarily always about ageing but very frequently because we speak to one another on a regular basis for all sorts of reasons. There is one—in some cases there may have been two—formal EQUAL coordination meeting a year. Also, we all attend in one capacity or another the regular AgeNet meetings, which are a forum where we exchange details between the research councils on what we are doing. The main purpose of that is to identify opportunities to do things together when that would be more effective than doing them separately. There are plenty of relatively small but useful examples of that. When we had our big event in Cardiff, we had other councils there because that was coordinated through that forum. In terms of explaining that this was all going on, I did write an article in "Science in Public Affairs" last year which set it all out. I think it would be unfair to suggest that there was not a coordinating structure in place because it is quite a close one, probably closer than most other areas of research that I am aware of, certainly in my area of activity anyway.

92. Other people like Research into Ageing have suggested that there could have been better coordination. Is that a perception that is fair?

(Dr Game) You probably have to ask what they mean by that. I suspect they mean more control of money and that is a very different issue.

Mr Beard

93. Professor Radda mentioned the value of having the Health Service in Britain as a means of clinical trials. To what extent has the Department of Health been involved in your two developments of research programmes around EQUAL and this general topic?

(Professor Radda) The Health Department is very closely involved with our research priorities and our research planning. They are involved in our strategic decisions and in deciding what strategy to follow. They are also involved in actual decisions on funding. In the same way, we have representatives on the Health Department R&D panels that consider various things. There is a very close concordat and very regular interactions at my level with the R&D director, the Chief Medical Officer and then, at office level, with their equivalents. Then we have annual stocktaking. They come to our awards group and our strategy development group. That is actually a very close relationship that works well.

94. Is that for ageing?

(Professor Radda) For ageing and in general. Ageing is one of their priorities. Also, mental health. We have very much the same sort of priorities and we exchange that information all the time.

95. Professor Baker, to what extent do you liaise or does the Department of Health get involved?

(Professor Baker) The nature of our Council is clearly to interface with MRC. We would not normally expect to interface with the Department of Health.

96. To what extent is there potential for the Department of Health to take a more prominent role in developing this type of EQUAL programme?

(Professor Radda) The Department of Health R&D and the research that the MRC does are pretty well defined in our concordat. The Medical Research Council by and large will support long term research which will have consequences quite a way down the line. The R&D programme up until now—and I have to say that they are rethinking their strategy—largely supported the research that was of immediate value that can be put into health services in a year or two. That distinction has helped us to work in parallel so that when our long term research was flagging up some opportunities for taking that into practice that was taken over by the Health Department R&D.

97. Professor Baker, would you see it playing a larger role in the future?

(Professor Baker) I would hope so but the organisation perhaps would need to reconsider its research areas very carefully. Maybe they ought to be doing rather more in ageing too. I would qualify my earlier answer on our interface with the Department of Health by saying that we do on occasions, such as BSE, become closer to them. That was a crucial area and continues to be. Therefore, the work that we are doing is closely followed by the Department of Health.

98. Would you expect to come closer to them on this topic, as you are going to survey what the results were of the first tranche of the programme?

8 March 2000]

PROFESSOR GEORGE RADDA, CBE, DR DIANE McLAREN,
PROFESSOR RAY BAKER AND DR ALF GAME

[Continued

[Mr Beard Cont]

(*Professor Baker*) I think it would be slow. We are a fair way back in the fundamentals looking at cell senescence and those other allied areas for them to get closely involved at this stage.

Chairman

99. Professor Baker, since you have mentioned the need for some form of reorganisation or grouping, what is our standing in ageing research in this country compared, say, with European countries and also the United States? Do you think there would be any benefit from following the US model and establishing a national ageing research institute, which I think you were beginning to allude to or touch on in your answers to Mr Beard?

(*Professor Baker*) I would feel strongly that a national institute of ageing would not necessarily be the way to go. I have been involved with institutes for a fair time. We have eight of them which evolved way back in history. I am not convinced that an institute in general maintains the vitality of funding university research groups in which turnover is larger. I will have to be careful this afternoon when people read my words but with a blank sheet of paper I am not sure I would start institutes with any longevity in certain scientific areas. The National Institute of Ageing in the United States is more concerned with diseases than it is with ageing itself. When you examine the portfolio of work, they follow diseases. The MRC have excellent centres. In some ways, the MRC centres are the equivalent of the National Institute of Ageing in the United States. Therefore, I personally would not see the need to start such an institute.

100. Professor Radda, would you comment on the international standing of our ageing research compared with Europe and the United States?

(*Professor Radda*) Let me comment on the coordination because it is important for you to know what is going to happen following AgeNet. We are now setting up an inter-research council coordinating committee for ageing research. The initiative was from ESRC and the MRC. We have identified an individual, Professor Alan Walker, from ESRC who will be the scientific leader of that coordinating activity. We are also setting up what is called the funders' forum which is equivalent to what we have done in cancer research recently, where we take all those who are involved in funding research into ageing, charities, health departments, BBSRC, MRC, ESRC and the other research councils, who will have a say in the way that funds are distributed. That is the way it is going to be coordinated in the future. Institutes versus not? The US national institutes are different from just being institutes. The National Institute of Ageing is a funding body. It funds universities all around the United States and it has its own laboratories to do research. It is not different from the way the MRC works. We are a funding body and we have units and institutes in areas of importance for the health of the nation. In terms of the second part of your question, the international comparisons, we are certainly not on the level of the United States in research into ageing, which is extremely popular there and, what is more, it is funded very largely by private funds. The US

population has a highly ageing group and many of them are extremely wealthy. The tax structure there is such that you can set up institutes for ageing left and right and there are many in the United States who do that. That is probably why they have particular strengths in research into ageing. In comparison to the continent and Europe, I think we are certainly better than most of the continental researchers.

Dr Jones

101. Could I summarise the position as I see it from the evidence so far? EQUAL seemed to act as a trigger for bids for funding. Many of those bids were not of alpha star quality but those that were, both of your organisations were able to fund in full. You say that in future, as a result of that ground work, there are likely to be more applications that would come under this EQUAL banner in future. If that is the case, Professor Radda, you said you are going to have this further coordination perhaps to look at how we go from here. Could you tell me how you will respond to what might well be more applications than you can fund? Are you likely to be expanding your programmes if you get these applications through?

(*Professor Radda*) If there are high quality applications in this area, we would certainly want to fund them. You would have to see what else you are doing to drop from your funding at the present level. The CSR settlement two years ago was extremely favourable to the MRC and we have funded more research in general in universities in the past two years than we have ever done before. We are in a very good situation even if the level of funding remains at the level that we have had. We hope we will be able to absorb important new applications in this area. We have about half a dozen in the pipeline from the call for the health of the public, which is going before the Council in July. One is an £800,000 grant very much related to the quality of life of people and the effect of extreme heat and social environment on ageing people.

102. Professor Baker, will the BBSRC be giving a higher priority to this area if you get quality bids in?

(*Professor Baker*) Yes. We mentioned the initiative earlier. I would echo Professor Radda's comments. The responsive mode success in our Council at the moment is 40 per cent. That has changed from 17 per cent when I first joined the Council some three and a half years ago. We have done some reorganisation to achieve that. It is not just an increase in money. We have given certain emphasis to our responsive mode. Therefore, four out of ten proposals are successful. In our view, that is about the level of the alpha rated proposals that we get. Therefore, as this community has built up, the quality of work has improved. We expect them to be competitive in our normal process through the Biochemistry Committee and through the Genes and Developmental Committee, which are two of the main boards that we run. I would hope that ageing research is highly competitive in those two committees.

8 March 2000]

PROFESSOR GEORGE RADDA, CBE, DR DIANE McLAREN,
PROFESSOR RAY BAKER AND DR ALF GAME

[Continued

Dr Jones

103. A bit earlier Professor Radda said the MRC rarely ring-fence, the fact that you rarely do it, perhaps, implies that you sometimes do. Would research into aging and the quality of life for older people be an appropriate area to ring-fence?

(*Professor Radda*) We ring-fence when there is a real, urgent, national need to build up capacity in response to, if you like, an emergency. The two areas where we have done it is AIDS and TSEs, that is the sort of thing we ring-fence. We, of course, have a notional sum, a budget for different areas of research that we have, but because we want to maintain the quality and the competitiveness amongst the different portfolios—we have a very broad portfolio and we have to have a broad portfolio—I do not think it is sensible for us to assign a particular sum of money to any one of these initiatives. We could have this discussion about cardiovascular disease—is it more important or less important than doing research into ageing, after all it is a major killer. Cancer, is it more important or less important? We have to try and have the balance and that the reason why we are not ring-fencing.

(*Professor Baker*) If I can comment on that too, we ring-fence money when we believe that the strategic need in an area is compelling. That very often goes along at the same time with the feeling that the community in that area is not strong enough and is not large enough to fulfil the mission or the agreement we have with our Council. It is a continual process, we launch about five special initiatives each year, totalling something like £25 million, ie five million for each of them, and they come through extensive consultation with the user community, and with all people who serve on our councils and give us the benefit of their advice. These programmes rise to the fore and then we commit that money at that time.

104. Can I move onto AgeNet? You were involved in the setting up of AgeNet; to what extent has that organisation influenced your programmes?

(*Professor Radda*) AgeNet was set up, (a) to co-ordinate, (b) to have workshops, (c) to try and stimulate research arising out of those workshops and (d) to do training. It has done very good work in workshops. It has planned to set up twelve—we have had seventeen successful workshops, well attended, on important topics. It has been quite successful at coordinating but it has not been very successful at stimulating research through its own agency. We

were, as a research council, much more successful in stimulating good research in the area. AgeNet has not done that. That is one of the reasons why we decided that AgeNet has done its bit and we now need to do it differently and use a new format, we are going to do that.

(*Professor Baker*) I think it has been disappointing in some of the aspects of the work and I think Professor Radda would agree.

105. AgeNet would say that they have had more, but EPSRC have been more responsive to their work and they have worked more closely. What do you say to that?

(*Professor Radda*) I cannot comment on what AgeNet think of EPSRC. What I think is, the fact that EPSRC was a research council who had actually previously no remit whatsoever to work on health related issues and things like aging. Any response from EPSRC to do something with that was a positive response. We have increased our activity in an area where we have always been active.

(*Professor Baker*) In some ways they may have added something. It is quite reasonable that some of the work that they have done maybe in areas such as the development of stirrup bones for improved hearing and that is a national development; however I am not sure they played quite such a role as you suggest.

Chairman

106. Thank you very much Professor Baker and Professor Radda; thank you also Dr McLaren and Dr Game for your performance this afternoon. We have some more witness sessions on this particular subject and before too long we shall produce a report, which we will ensure goes to you as soon as it is published. We are very grateful to you, particularly the two principal witnesses, for the assistance you have given us on this subject. We have tried to revive interest in this subject to look at the impetus that was created by EQUAL when it was formed, to see if EQUAL still has a role to play or whether it is more important to have the stimulus that EQUAL has created rather than the EQUAL organisation itself. Those are findings we shall make in due course. We thank all four of you for assisting us this afternoon.

(*Professor Radda*) Thank you for giving us an opportunity.

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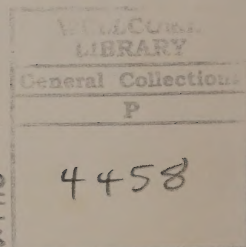
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